

# Cost effectiveness analysis of a ‘justice reinvestment’ approach to Queensland’s youth justice services

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## **1. EXECUTIVE SUMMARY**

This report provides an economic evaluation, using cost-effectiveness analysis, to identify and quantify the possible avoided costs and number of youth diverted from becoming clients of youth justice services if the Queensland government invested in justice reinvestment programs.

This report has been prepared on behalf of the Pro Bono Centre within the School of Law at the University of Queensland. The authors were briefed by **Balanced Justice**, an alliance of community organisations that work to enhance the safety of all Queenslanders by promoting understanding of criminal justice policies that are effective, evidence-based and human rights compliant (<http://www.balancedjustice.org/>).

Using ‘cost effectiveness analysis’ methodology, this report examines the cost to the Queensland Government of ‘business as usual’ of detaining, supervising and working intensively with young people that may come into contact with the criminal justice system. Corrective services, youth justice services and community services are examined, and the present value of these costs is estimated as \$8.862 billion over the period 2015-2030. That is, the taxpayers of Queensland will pay almost \$9 billion over the next fifteen years on a youth justice system that prioritises punitive and criminogenic responses.

However, with an upfront investment of \$10m over four years and a focus on justice reinvestment (prioritising resources towards supporting 110 at-risk young people) the re-direction of a relatively small amount of expenditure from the justice system can make a substantial difference in the number of young people who obtain family support and who might be diverted from becoming clients of justice services. Specifically, out of 110 children, annually, 7 should avoid offences which would otherwise lead to community based-supervision and one – detention-based supervised

person. This estimates that 6 people should avoid imprisonment each year and 15 people should be removed from community correction each year.

However, a more optimistic option assumes that community services, represented in the analysis by intensive family support, are 5-10% efficient in the prevention of youth offences and at least 1-2% efficient in the prevention of people from entering corrective services. This option leads to cost savings for the Queensland budget of \$263m by 2030 (expressed as a present value).

**Even if they are only 5-10% effective, redirecting funds from detention centres and other costly responses to criminal offending towards early intervention services could save the Queensland budget up to \$263m to 2030.**

## **2. BACKGROUND**

This report provides an economic evaluation, using cost-effectiveness analysis, to identify and quantify the possible avoided costs and number of youth diverted from becoming clients of youth justice services if the Queensland government invested in justice reinvestment programs.

This report is a first step for the integration of economic evaluation into the discussion about justice reinvestment for Queensland.

### **Youth justice reinvestment**

The Steering Committee for the Review of Government Service Provision (Productivity Commission (PC), 2013) described the aim of youth justice services as “to contribute to a reduction in the frequency and severity of youth offending, recognise the rights of victims and promote community safety” (PC, 2013).

The Queensland government has demonstrated a commitment to strengthen responses to youth crime (PC, 2013, 8:39). Apart from the trial of ‘early intervention’ youth boot camps in Queensland, for the most part, the current approach to youth justice in Queensland has been to strengthen the response to youth crime by increased penalties rather than preventative measures such as increased family, health and education services to at risk families.

An alternative approach is “**justice reinvestment**”, which involves advancing “fiscally sound, data driven criminal justice policies to break the cycle of recidivism, avert prison expenditure and make communities safer” (PC, 2013).

Justice reinvestment would require a change of emphasis for the Queensland state government, from discouraging youth offending by punitive action to tackling youth crime before it eventuates, in its earliest stage or during the transition from youth to young adults, as Homel et al. (2012)

assert, “early in the pathway, not necessarily early in life”. This requires identification of at risk youth and provision of appropriate support services to divert them from a pathway to crime. Support services are anticipated to be provided by the communities as community-based initiatives as well as by specially established institutions. The services can include family support, educational support, health and housing support and are anticipated to target identified groups of youth as the literature and research emphasize “the crucial importance of the early years of life and the need to target crime prevention initiatives towards the chronic offending group, as this is likely to result in significant reductions in crime. [...] A small group of offenders pose the largest long-term concern for the justice system” (Livingstone et al., 2008, page 360).

To encourage the government to invest in justice reinvestment, information needs to be provided about the likely outcomes from the investment. This means information about not only the cost savings or avoided cost of youth justice services but also the number of at risk youth likely to be diverted from crime.

This economic evaluation considers policies that seek to divert at risk youth from offending and entering correctional services by providing increased family and community services. No attempt is made in this report to examine the cost effectiveness of funding to specific family and community services. Rather, it estimates the magnitude of the cost savings or avoided costs that might be expected if at risk youth were diverted from entering youth justice services.

## **Outline of report**

The next section of this report describes the methodology adopted for this evaluation and the steps required. Section 4 details the assumptions underlying the estimates of the costs associated with business as usual or do nothing as well as a number of options to estimate the cost and number of offenders diverted from youth justice services as a result of implementation of a justice reinvestment policy. Section 5 provides the results from the analysis reporting estimates of both the avoided costs and number of young offenders diverted. The final section of this report makes a number of recommendations and points out the limitations of this evaluation.

## **3. METHODOLOGY**

### **3.1 Cost effectiveness analysis (CEA)**

CEA, as an economic evaluation technique, is based on a comparison of the costs associated with different decision options when the effect or benefits of an investment decision cannot effectively be estimated in monetary values. It measures how well inputs (usually estimated in monetary

values) are converted into outcomes. CEA is frequently used in health economics and studies where health effects are difficult to assign dollar values but where there is a common and measurable outcome.

The benefits of crime prevention including those for community and family cannot effectively be estimated in monetary terms but estimates of numbers of young people entering the justice system under different funding regimes are measurable. For this reason, for the purposes of this study, CEA is identified as an appropriate evaluation technique. It will be employed in this analysis to estimate the avoided costs likely to result from justice reinvestment for youth justice services and the number of youth averted from entering youth services.

It is important to acknowledge at the outset of this report, that the majority of young people who come into contact with the youth justice system do not become clients of statutory youth justice agencies. This report is concerned with young people who do become clients.

### **Elements of the justice system and justice reinvestment for analysis**

This study considers several elements of the justice system and associated public expenditure including:

- Prisons and community corrections
- Youth justice services including:
  - o detention-based youth justice services;
  - o community-based youth justice services;
  - o group conferencing.

At the time of this study, no data was available on the costs of the non-government and community based service providers which are likely to play a substantial role in the justice reinvestment system. Therefore intensive family support services which are classified as child protection services are used in this study as a proxy for services which can be provided within a justice reinvestment initiative

## **3.2 Steps in evaluation**

A CEA evaluation requires a number of specified steps to be undertaken. In the interests of reasonable brevity, these are described briefly with more detail about the assumptions used to construct the evaluation provided in the appendices.

- A first and important step for undertaking an economic evaluation of investment in a project or program is to identify the without project or business as usual (BAU) option. It is against this that estimates can be made of the outcomes from the investment. Considerable detail is

provided in the next section to establish the projected expenditure on and numbers of clients requiring justice services if the immediate past trends continue to 2030.

- Identification of the project and the objectives of the project to be evaluated require not only a description of the project but also identification of the stated objectives. For a CEA this is important because rather than estimating a monetary value for all of the objectives (benefits) likely to result from the project, CEA identifies one objective for which a monetary value is not required. The Productivity Commission (2013) provides a number of criteria for justice services against which the performance of justice reinvestment could be measured. These include, the amount of justice expenditure saved or avoided, reduced recidivism rates and benefits to local communities. Although the literature on justice reinvestment provides little guidance about the response rate for reduced recidivism and describes the benefits to the community with little provided to assign a monetary value, there is detail about current expenditure and the number of young people accessing youth services. As a result, this study puts forward a number of hypothetical options or scenarios that assume a reduced number of young people identified as at risk from entering youth justice services as increased investment is made into family support services. The reduced number of young people entering youth justice services is likely to result in a reduction in the costs associated with these services. These are termed the avoided costs and are calculated as the difference between the costs of the business as usual option and reduced expenditure on youth justice as reduced numbers entering justice services declines.
- Anticipated expenditure for the business as usual option (over the estimated 15 year life of the project) as well as avoided cost associated with reduced demand for youth justice services, for the hypothetical options suggested in this study are converted to a present value. For this study, a discount rate of 3.5% has been adopted as this is currently the 10 year cost of capital stipulated by Queensland Treasury when there are substantial social benefits expected to result from the investment. This rate has been included in the sensitivity analysis with the expenditure discounted at 6% and 10%.

## **4. ASSUMPTIONS FOR POLICY OPTIONS**

### **4.1 Business as usual option**

Cost effectiveness evaluation requires the BAU option to be estimated in monetary units. This study considers several categories of government expenditure which are anticipated to be affected as a consequence of the implementation of the justice reinvestment program in Queensland. The

expenditure categories include police services, youth justice services, corrective services and child protection services.

This section of the evaluation report analyses the cost to the budget for the provision of services from these justice services over the last 10-13 years. Identified trends in costs over the last decade associated with the provision of these services are assumed to continue over the next 10-15 years and are the basis for the BAU option. In order to make assumptions about expenditure for the BAU case, numbers of persons using the service are initially estimated, followed by expenditure.

The categories of the users of justice services employed in this report are defined according to the literature source. However, it is necessary to acknowledge that estimates of users of justice services can vary substantially due to disparate assumptions underlying data collection procedures and sources used by the authorities. For example, the data on juvenile offenders sourced from the Productivity Commission (2013), differ from the figures reported by the Children's Court of Queensland. Specifically, whereas the Productivity Commission uses the *Youth Justice Pocket Statistics* which defines a young offender as a person with one or more than one proven charge in the reference year (regardless of how many individual charges against an offender in the one year, they are counted only once), the Children's Court of Queensland Annual Report adopts the Australian Bureau of Statistics counting rules where 'the same person in the same court on the same day' is counted once. However, if a defendant appears in court on several dates in any financial year, they are counted more than once" (*Youth Justice Pocket Stats 2012-13*).

In order to maintain consistency for this study, one data source is employed, *Youth Justice Pocket Statistics 2012-13*, as used by the Productivity Commission (2014), but the definitions used by that source are made explicit in the text.

According to the Productivity Commission (2014) corrective services are described as follows:

*Corrective services implement the correctional sanctions determined by the courts and releasing authorities such as parole boards. ...*

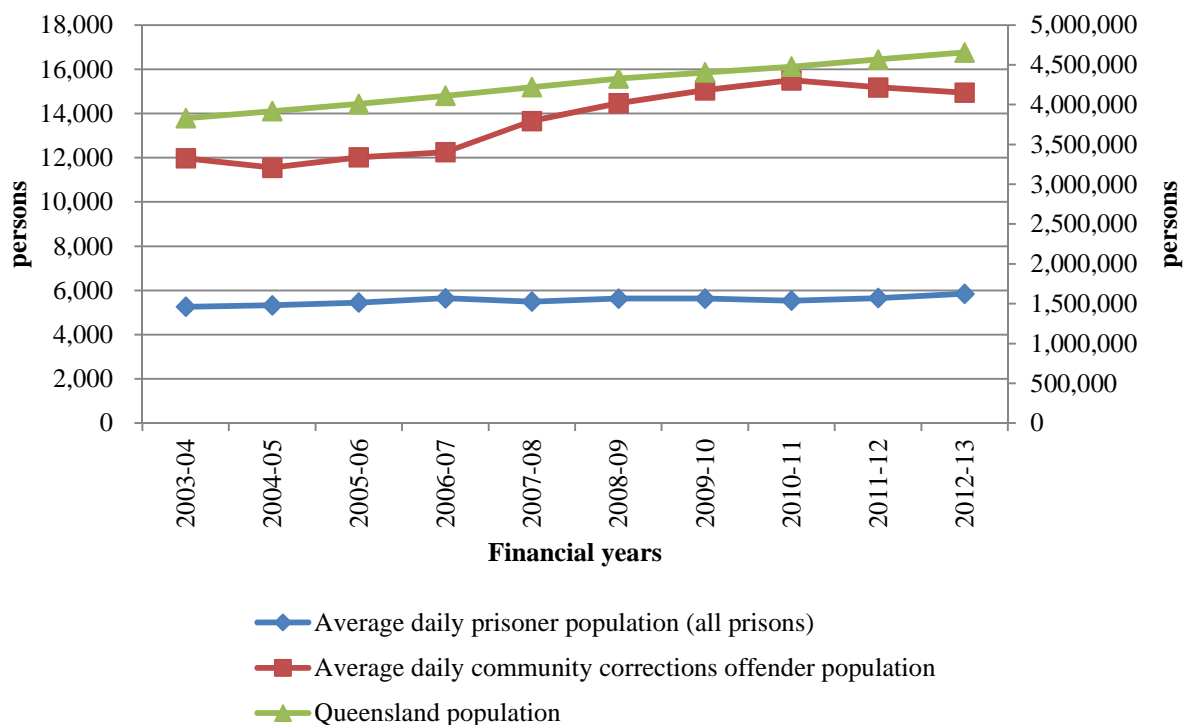
*Corrective services include prison custody, periodic detention, and a range of community corrections orders and programs for adult offenders (for example, parole and community work orders). Both public and privately operated correctional facilities are included. (PC 2014)*

### ***Corrective service assumptions***

According to ABS (2014), the number of persons in prisons has recently increased. "In 2013, Queensland had the largest increase in prisoner numbers (483 prisoners), followed by Victoria (456 prisoners)... The overall prison population increased 9 per cent (483 prisoners) to 6,076 from 2012".

Although these figures have been interpreted by some experts as the beginning of an upward trend associated with the legislative changes of the Queensland Government, this analysis is unable to acknowledge this as a trend as the 2013 estimates from the ABS are technically not directly comparable to data presented in the graph below, which is based on PC (2014). Moreover, one year of increased number of persons in corrective services does not represent a trend which can reasonably be expected to continue for the next 15 years.

For the BAU option no change in the imprisonment *rate* is anticipated over the project lifetime. The dynamics of the corrective services population and population growth in Queensland over the last 10 years is demonstrated in figure 1. It shows that the number of persons in corrective services has grown, since 2003-4 at approximately the same rate as population growth. Therefore, for the BAU case, the number of offenders in community correction is assumed to increase at the same rate as population growth.



**Figure 1 Dynamics of average daily population in corrective services and population growth in Queensland**

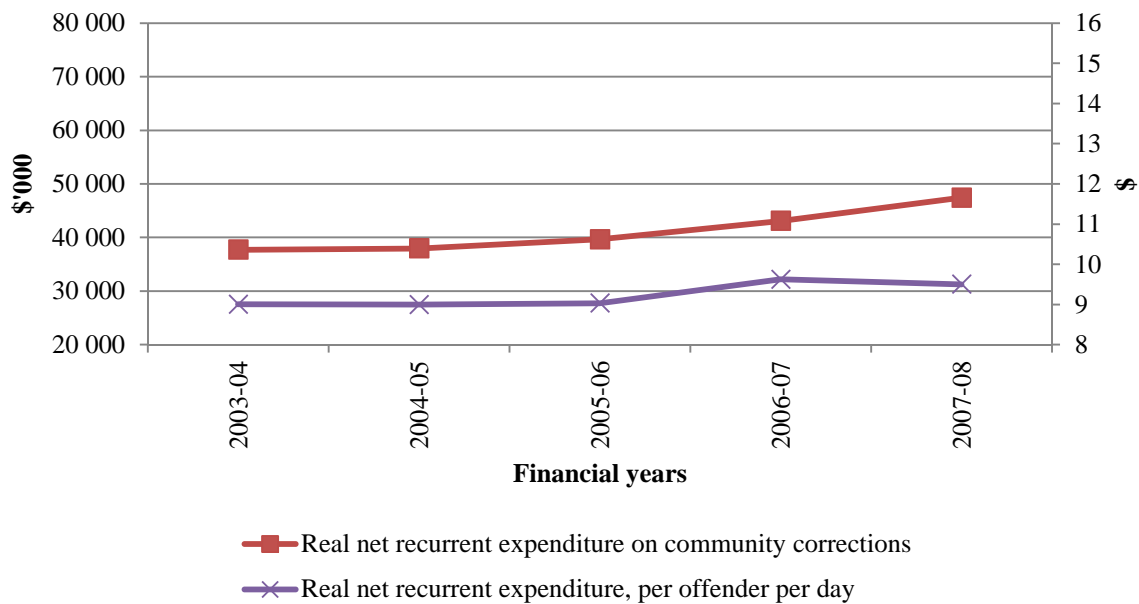
Source: Productivity Commission (SCRGSP 2014)

### ***Expenditure on corrective services***

Expenditure on corrective services, for the purpose of this study, is considered only for operational costs. It is acknowledged that any marginal change in the number of offenders is unlikely to affect expenditure associated with capital costs including the user cost of capital (depreciation).

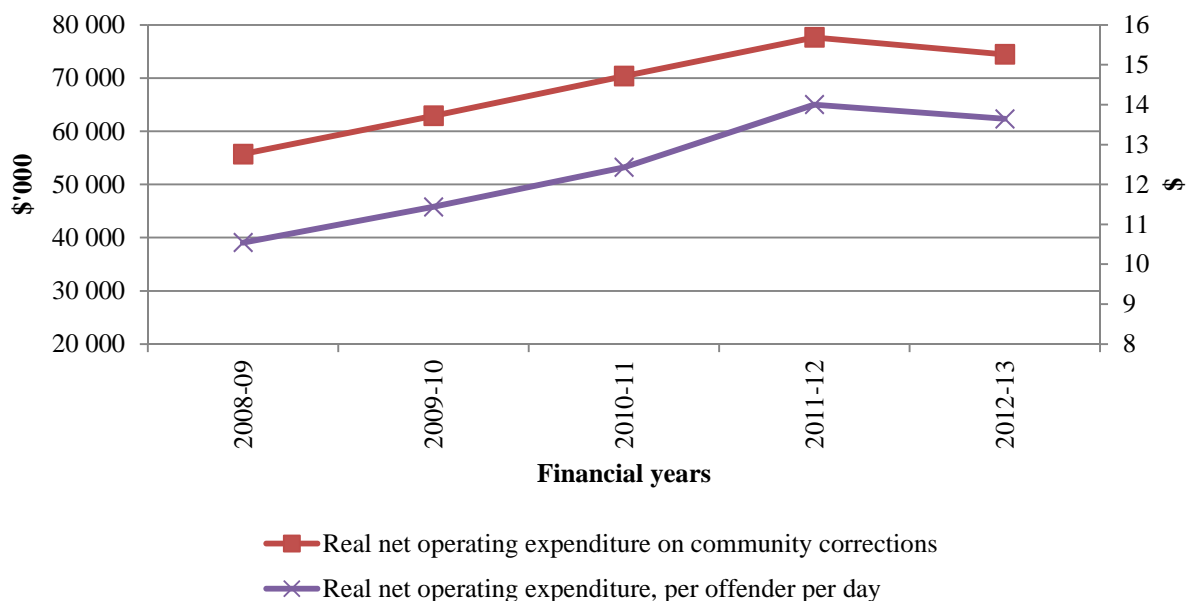
According to reports on government services by the Productivity Commission (2014; 2009) expenditure on prisons in Queensland, in real terms, slowly increased over the period 2003-04 to 2007-08 (figure 2); however, expenditure over the last 5 years is indicated to have declined. Consequently, no clear trend is observed in government expenditure on prisons.

However, a clear upward trend is observed for real expenditure on the operational costs for community correction services since 2005-06 for both total and per offender expenditure (figures 2 and 3).



**Figure 2 Real net expenditure on community corrections in 2003-04 – 2007-08 in Queensland**

Source: Productivity Commission (SCRGSP 2014)





### Figure 3 Real net expenditure on community correction Queensland, 2008-09 - 2012-13

Source: Productivity Commission (SCRGSP 2014)

The BAU option assumes that real expenditure on prisons remains unchanged over the lifetime of the project. However, real expenditure on community corrective services is anticipated to increase at the same rate as population growth and per offender. Therefore it is assumed that the rate of annual increase in expenditure exceeds population growth by 1.5%.

#### *Youth justice services*

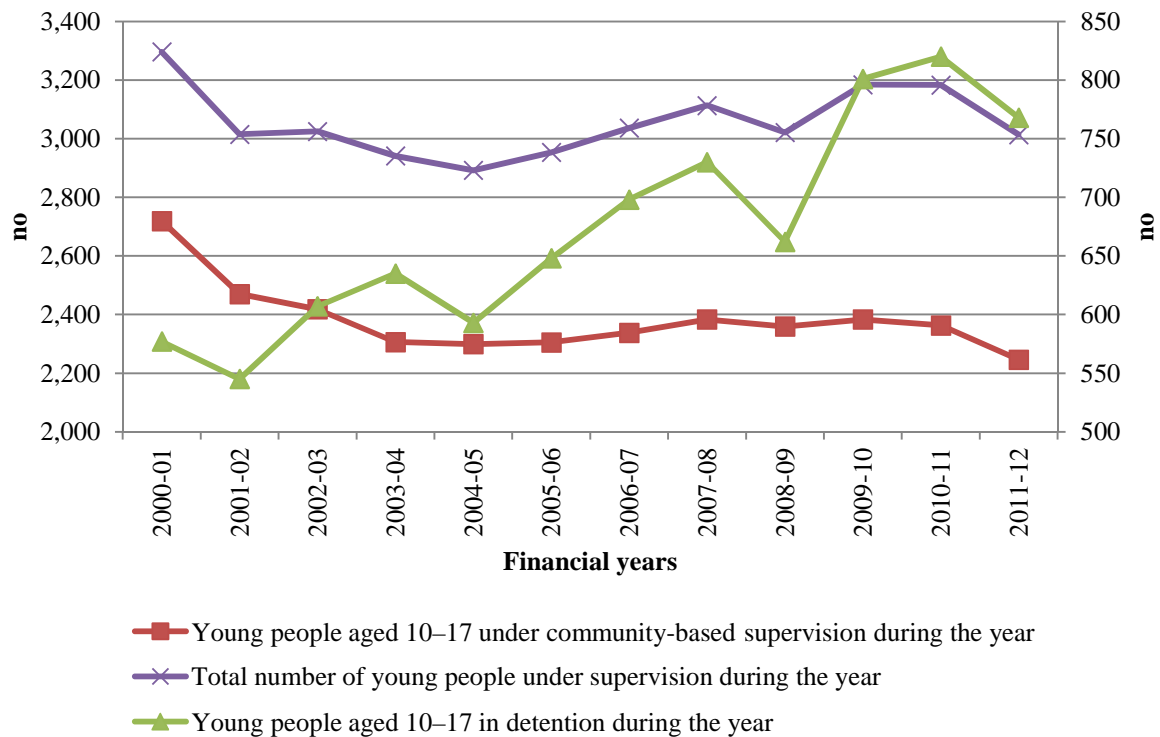
This study considers three elements of the youth justice system: community-based and detention-based supervision and group conferencing. The following section analyses the population and cost statistics for these groups for the BAU option.

#### *Number of young people under supervision*

Over the period 2000-01 – 2004-05 the total number of young people under supervision (detention plus community-based supervision) is shown to have had a downward trend, primarily due to the decreasing number of community-supervised offenders (figure 4). Since 2004-05 the number of young people in community-based supervision shows no clear declining trend.

Since 2000-01 the number of young people in detention has been increasing (figure 4). Over the 12 year period the number of people in detention during the year increased from 577 to 894 which is equivalent to an annual growth rate of approximately 3.7%.

Overall, the increase in the number in detention based supervision has driven up the total number of youth under supervision over the last 10 years.



**Figure 4 Young people aged 10–17 under community and detention based supervision during the year**

Source: Productivity Commission (SCRGSP 2014)

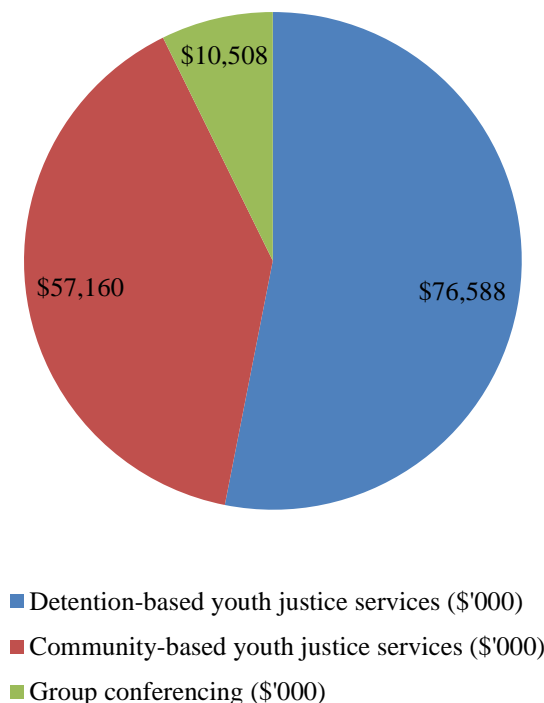
For the BAU option the number of young people in detention can be expected to increase over the lifetime of the project. It has been observed that the increase in youth in detention was driven by the Indigenous population, therefore the projections for population growth of Indigenous communities can be used as a proxy for a projected increase in the number of young people under detention supervision in the BAU option.

At the same time community based supervision demonstrated a nearly constant number of young people provided by this service over the past 10 years following a period of decline. The decreasing rate of offenders in community supervision is assumed to be compensated by the increase due to population growth. Therefore no change to community-based youth supervision is expected over the lifetime of the project for the BAU option.

***Expenditure on youth justice services***

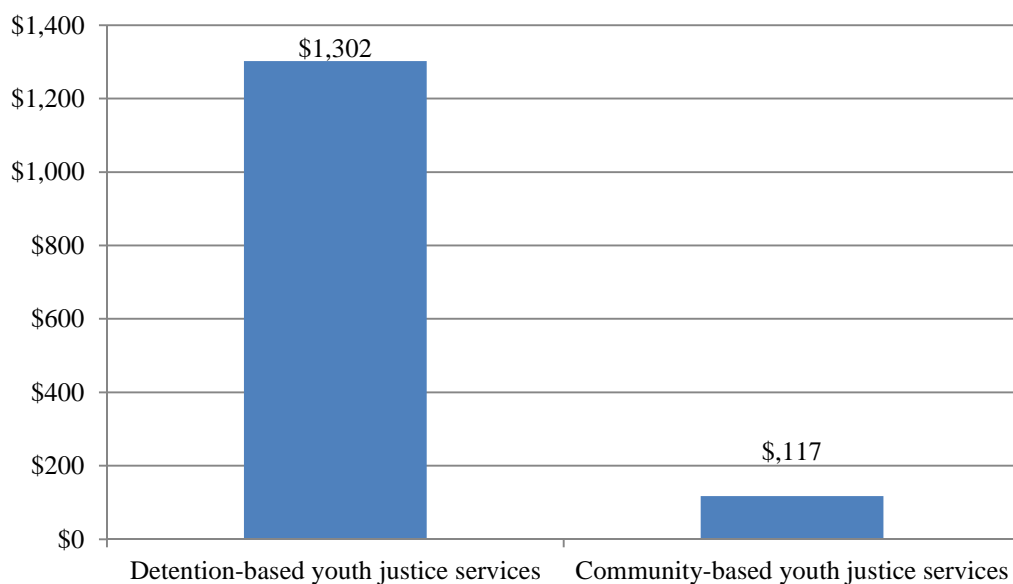
No consistent data is available to observe the dynamics of government expenditure on youth justice services over the reference period in Queensland. However, as per 2012-2013, expenditure on detention based supervision was the main contributor to total expenditure on youth justice services (figure 5). The per person cost of detention supervision was over 11 times higher than for community based supervision (figure 6).

For the purposes of this study, it has been assumed that state budget expenditure for detention based supervision will increase at the rate of growth of the Indigenous population. However, the expenditure associated with community-based supervision is assumed to remain constant.



**Figure 5 Nominal expenditure on youth justice services in Queensland in 2012-2013**

Source: Productivity Commission (SCRGSP 2014)



**Figure 6 Cost per young person per day subject to supervision**

Source: Productivity Commission (SCRGSP 2014)

There is no information currently available for the dynamics of youth under youth conferencing. However, group conferencing accounts for a minor proportion of expenditure on youth justice services (figure 5). Therefore, for the purpose of this study, group conferencing is no longer considered.

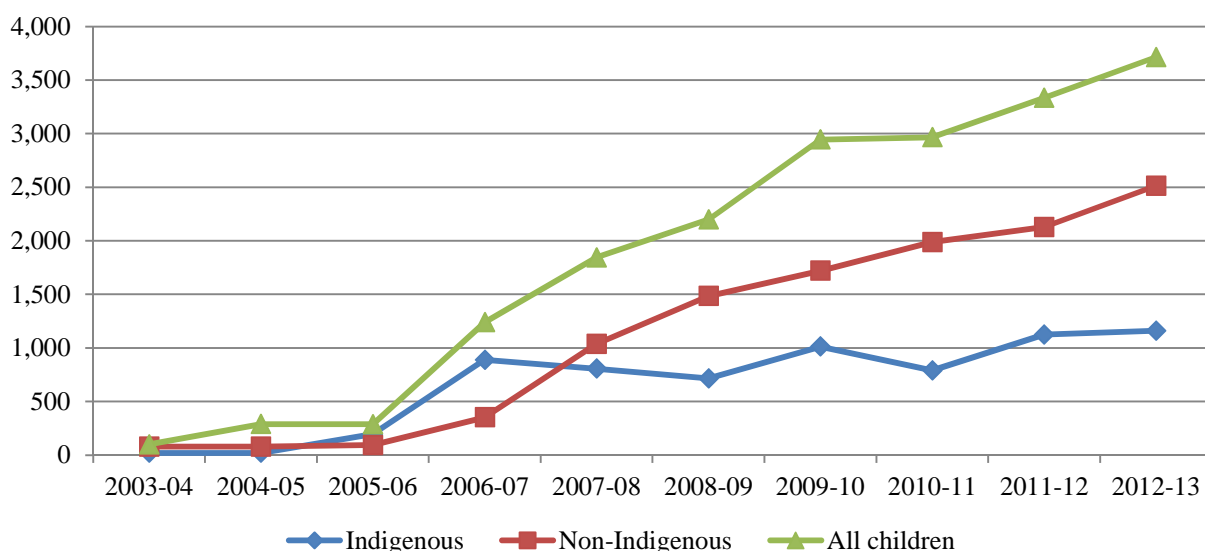
## 4.2 Community services: intensive family support

The intensive family support service is seen to be a means of early intervention which can potentially benefit the whole family of a child provided by the service.

Intensive family support is a means of child protection. According to the Productivity Commission (PC, 2014, Volume F, 15:5) intensive family support services are specialist services that aim to prevent the imminent separation of children from their primary care givers as a result of child protection concerns and to reunify families where separation has already occurred.

Intensive family support services may use some or all of the following strategies: assessment and case planning; parent education and skill development; individual and family counselling; anger management; respite and emergency care; practical and financial support; mediation, brokerage and referral services; and training in problem solving. Productivity Commission (Report 2014, Volume F, 15:5)

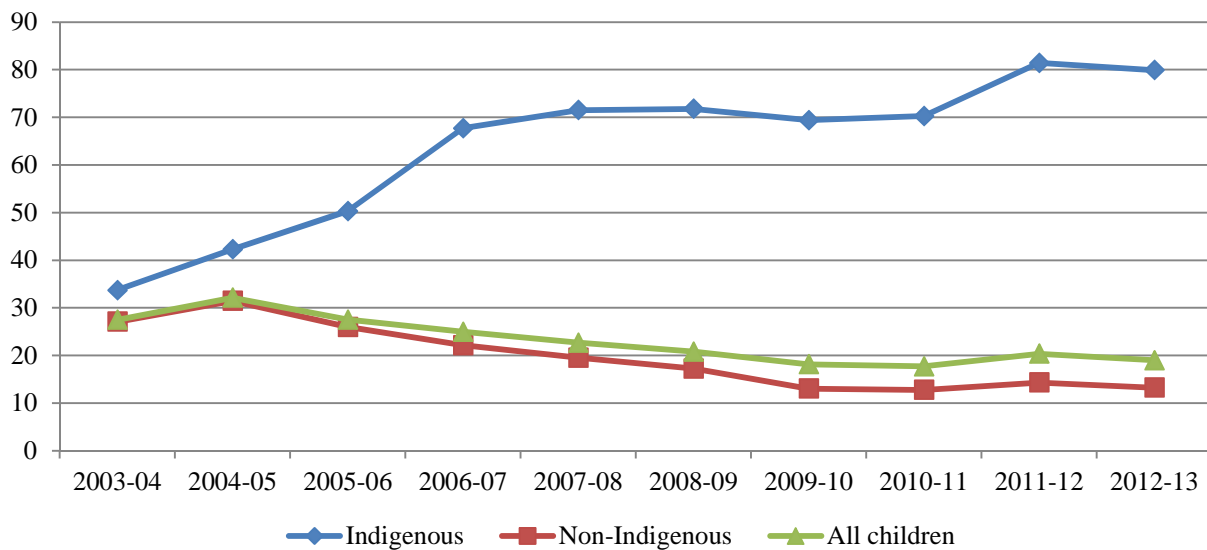
The number of children undergoing intensive family support has been increasing annually over the last 10 years, for both indigenous and non-indigenous categories as reflected in figure 7.



**Figure 7 Number of children aged 0–17 years commencing intensive family support service by Indigenous status**

Source: Productivity Commission (SCRGSP 2014)

The data on the proportion of children in the population provided with intensive family support is not available. However, since intensive family support as a service is generally provided in response to referrals from a child protection organisation, the rate of children in notifications was used to study the trend for intensive family support. The analysis shows that the rate (per 1000 children) of children aged 0-17 years (2009/10-20012/13) or 0-16 (before 2008/09) in notification has been decreasing since 2003 for non-Indigenous children as well as for all children counted together, although steadily increasing for Indigenous children (figure 8).



**Figure 8 Children aged 0-17 years (2009/10-20012/13) or 0-16 (before 2008/09) in notification - rate per 1000 children**

Source: Productivity Commission (SCRGSP 2014)

At the same time government expenditure in Queensland on intensive family support services in real terms (2012-2013 dollars) per child is steadily increasing. Over a 10 year period the real expenditure per child has increased 2.15 times or approximately 8.86% annually.

The real recurrent expenditure on intensive family support services is calculated based on the assumption that “the service must average at least 4 hours of service provision per week for a specified short-term period (usually less than six months)”.

The real recurrent expenditure per child commencing intensive family support services in Queensland in 2012-2013 was \$10 875.

For the purpose of this study intensive family support expenditure is assumed to be increasing by 5% annually in the BAU option.

## ***Police***

In all jurisdictions, police have responsibility for administering options for diverting young people who have committed (or allegedly committed) relatively minor offences from further involvement in the youth justice system. Diversionary options include warnings (informal cautions), formal cautions, and infringement notices. Responsibility for administering the diversionary processes available for more serious offences lies with youth justice authorities, courts and in some cases, other agencies.

The juvenile diversion rate deviates between 36 and 49% with the two lowest levels reported for the last two years. At the same time it can be assumed that the juvenile diversion rate remains unchanged in the BAU option over the projected period.

## ***Police expenditure***

Although, given the important role of police in the diversion of youth from the justice system, justice reinvestment could in fact result in increased government expenditure on police. However it is not possible to apportion the cost of police services expended on diversion of youth from the justice system. Therefore, expenditure on police has been excluded from this analysis.

### **3.3 Identification and estimation of the outcomes from justice reinvestment**

A review of the Pathways to Prevention Project literature goes some way towards establishing a link between the maltreatment of a child and the increased risk of them coming before the courts as youth offenders.

Although a little dated, Stewart et al. (2002) examined the effect maltreatment of a child has on juvenile offending by demonstrating a direct link from child maltreatment to juvenile offending. Of the 41,700 children born in Queensland in 1983, it estimated that about 10 per cent (approximately 4,170) had come to the attention of the Department of Families by the time they were 17 years old because of a child protection matter. “About five per cent of those in the cohort [208] had a court appearance for a proven offence” (Stewart et al. 2002, p.1). Stewart et al. concluded that the relationship between maltreatment and the incidence of youth offending “has implications for understanding criminal behaviour as well as implications for child protection initiatives and crime prevention strategies”, (Stewart et al. 2002. p.1).

This study was followed by a report by Dennison et al. (2006) who found in their study of children who had been cautioned by police rather than being charged was that “children who have been maltreated and cautioned are more likely to re-offend than those who have not been maltreated

highlighting the importance of programs that target risk factors associated with maltreatment early in a child's life". This was found to be particularly important for young Indigenous children.

Homel et al. (2012); although endorsing the findings of previous studies advocating early intervention as a preventative measure for young offenders, cautions that the early prevention approach aimed specifically at children is "not on its own sufficient for building community prevention capacity within a national framework" (p. 3). They suggest that early prevention needs to be expanded beyond children to young adult crime and that attention should be given also to the problems for young adults including substance abuse. A main point made by the Pathways to Prevention report, (Homel et al. 1999) was "early in the pathway" not necessarily early in life".

For the analysis purposes it has been assumed that the cost reduction for different components of expenditure associated with justice reinvestment options is proportional to the reduction in the number of people in corrective services and youth under supervision respectively.

### **3.4 Up-front investment**

Although justice reinvestment will require an initial investment by government agencies, it is expected that the investment will result in cost savings which could be reinvestment in on-going family services. There is limited information available in the literature on which to approximate an initial investment. Hence, it is assumed that an initial investment of \$10,000,000 over 5 years after which \$1,000,000 per annum is required for family or community support services plus the savings from youth justice services and corrective services.

## **4. RESULTS FOR JUSTICE REINVESTMENT POLICY OPTIONS**

The present value (PV) of the costs of the corrective services, youth justice services and intensive family support analyzed in the BAU scenario is \$8 862m. PV is calculated as the present value of the estimated cash flow of budget expenses over the reference period (2015-2030). The cash flow is discounted using the assumed discount rate (3.5%).

### **Option 1 – Conservative**

Option 1 presents a policy alternative of gradual implementation of the justice reinvestment initiative. The results of the project are expected to be realized five years after the start of the initiative in 2015. The required initial investment is assumed to be \$10m, which is assumed to be made in equal annual installments over a 4 year period (25% each year from 2015 until 2018).

The number of people in corrective services and receiving youth justice supervision is assumed to be decreasing annually at a low rate as a result of the preventative activities by the communities

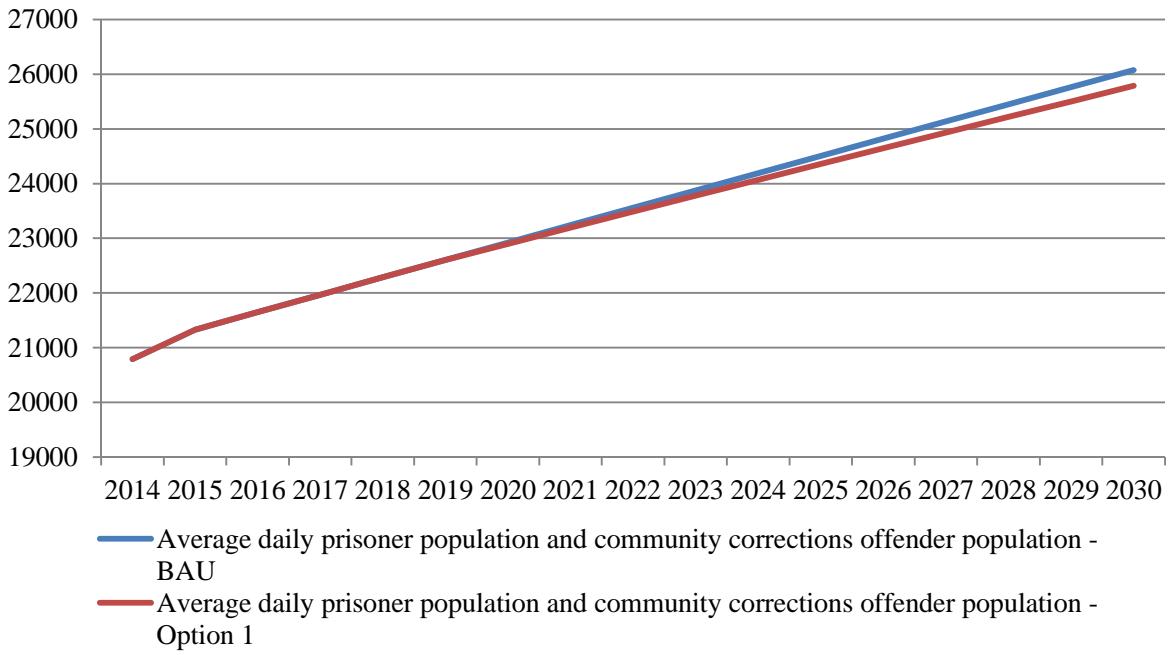
which participate in the justice reinvestment initiative. At the same time the number of families provided with intensive family support is expected to increase. The assumptions for the rate of change of the described parameters are specified in table 1.

**Table 1 Option 1: Assumptions**

Group	Number of people provided by the service (2012-2013)		Option 1 - Conservative		
			Increase (+) / Reduction (-) in the number of people per annum		Year, when cost change is first realised (2015-2030)
			No	%	
Prisons	Average daily prisoner population	5849	-6	-0.1%	2020
Community corrections	Average daily community corrections offender population	14942	-15	-0.1%	2020
Youth justice services	Average daily number of young people subject to detention-based supervision	161	-1	-0.6%	2020
	Average daily number of young people subject to community-based supervision	1335	-7	-0.5%	2020
Intensive family support services	Number of children aged 0-17 years commencing intensive family support services	3714	110	3.0%	2020

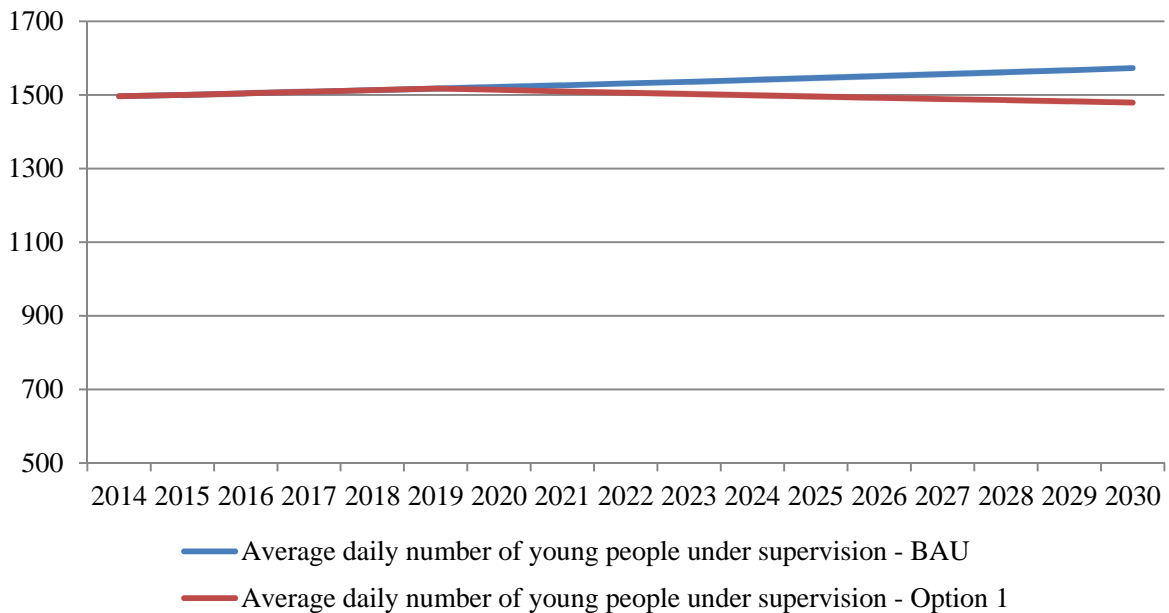
As table 1 demonstrates, the population of prisons is assumed to decrease by only 0.1% annually from 2020. This is equivalent to 6 people per annum diverted from imprisonment and 15 per annum from community correction. This is illustrated in figure 9.





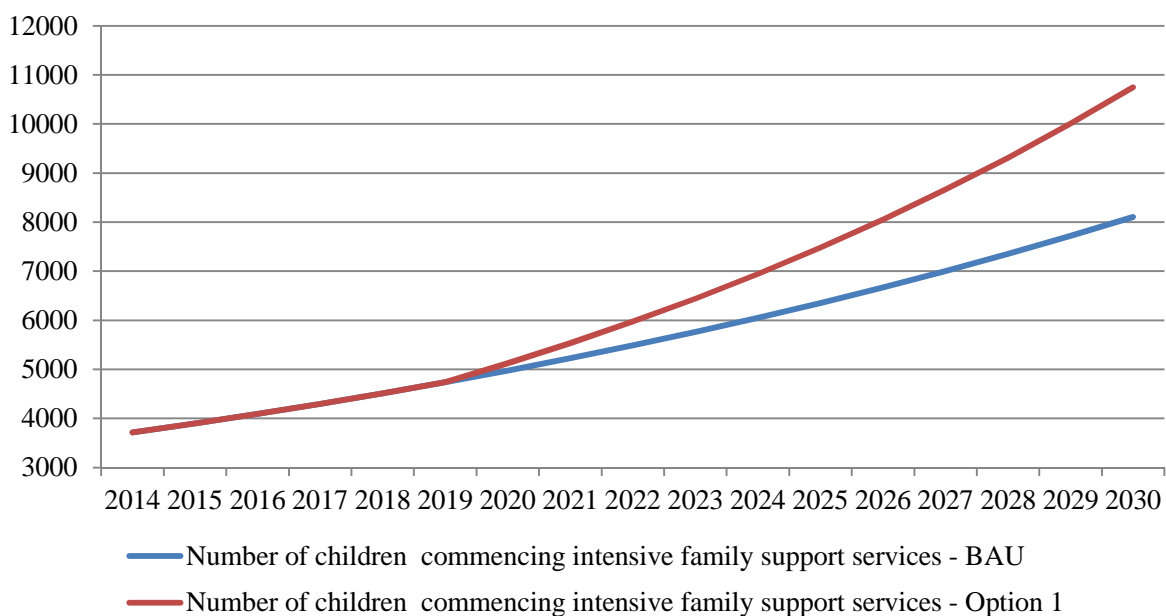
**Figure 9 Average daily prisoner population and community correction offender population in BAU and Option 1 scenarios**

The number of youth under supervision is expected to decrease by only 0.6% annually for detention-based supervision (1 person a year) and 0.5% annually for community-based supervision (7 people per year) (figure 10).



**Figure 10 Average daily number of young people under supervision in BAU and Option 1 scenarios**

At the same time it is assumed that the number of children provided with intensive family support services increases by 110 people annually from 2020 which is nearly 3% annually as demonstrated in figure 11.



**Figure 11 Number of children commencing intensive family support services in BAU and Option 1 scenarios**

The present value of the expenditure associated with this scenario (Option 1) is \$8 902m. This is nearly the same as the present value of the cost for the BAU option (\$8 862m).

Consequently, a small reduction in the number of people in corrective services and youth justice system can result in a substantial increase in the number of families provided with intensive family support services as well as initial investment into the justice reinvestment system of \$10m. In brief, option 1, although suggesting nearly the same expenditure as the BAU option, shows how the re-direction of a relatively small amount of expenditure from the justice system can make a substantial difference in the number of young people who obtain family support and who might be diverted from becoming clients of justice services.

However, the analysis demonstrates that for the justice reinvestment initiative to be cost effective, the community services provided as a part of justice reinvestment activities (which are represented in the analysis by intensive family support services), should be capable of reaching a minimal level of effectiveness. Specifically, out of 110 children, annually, 7 should avoid offences which would otherwise lead to community based-supervision and one – detention-based supervised person. This

estimates that 6 people should avoid imprisonment each year and 15 people should be removed from community correction each year.

It is necessary to acknowledge that intensive family support services are expensive services which require substantial resources. However, initiatives and services which can and should be offered as a part of the justice reinvestment project are likely to imply lower costs per person or family in the longer run. Consequently, more people (families) could be provided with these services within the same budget.

## Option 2 – Optimistic

The effectiveness of the justice reinvestment initiative is dependent on the effectiveness of community-based services and support which are offered to youth and families at risk. At the same time as demonstrated above, the effectiveness of community services should be expected for the justice reinvestment initiative to be cost-effective.

The second option assumes that community services represented in the analysis by intensive family support are 5-10% efficient in the prevention of youth offences and at least 1-2% efficient in the prevention of people from entering corrective services. The assumptions are specified in table 2.

**Table 2 Option1: Assumptions**

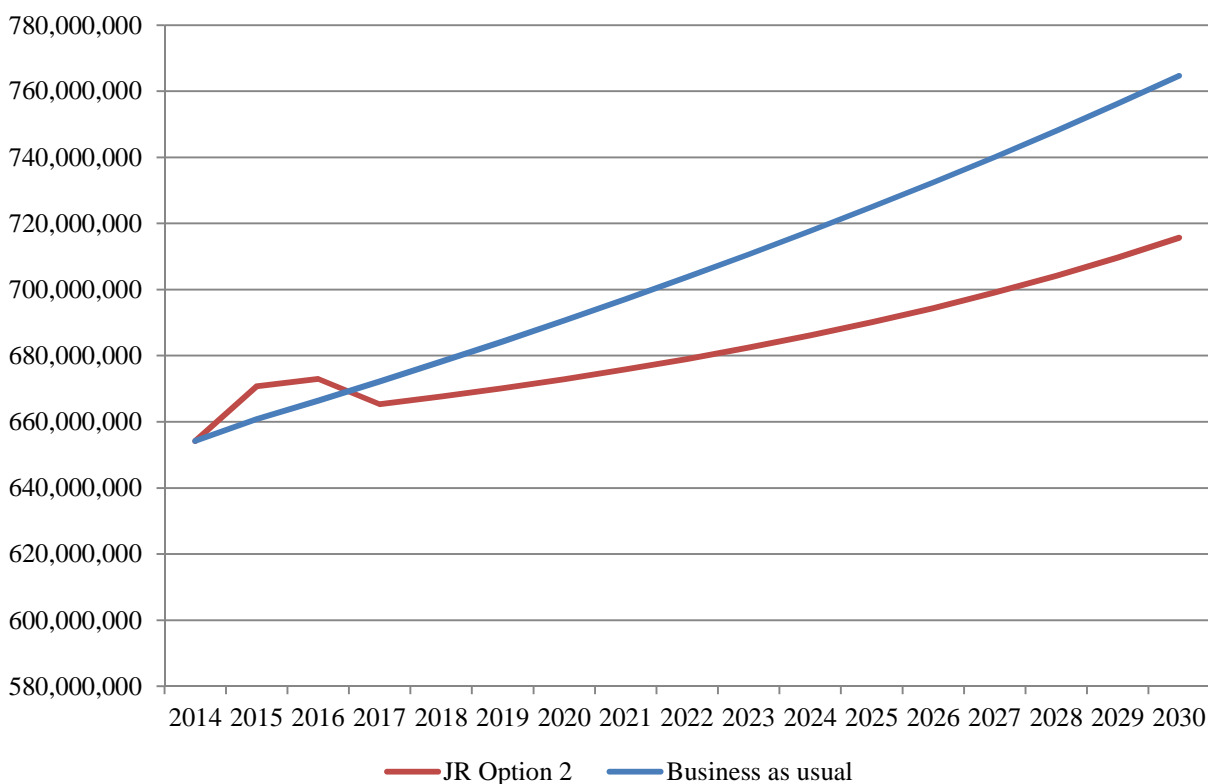
Group	Number of people provided by the service (2012-2013)		Option 2 – Optimistic		
			Increase (+)/ Reduction (-) in the number of people per annum		Year, when cost change is first realised (2015-2030)
			No	%	
Prisons	Average daily prisoner population	5849	-2	-0.03%	2018
Community corrections	Average daily community corrections offender population	14942	-4	-0.03%	2018
Youth justice services	Average daily number of young people subject to detention-based supervision	161	-10	-6.21%	2016
	Average daily number of young people subject to community-based supervision	1335	-20	-1.50%	2016
Intensive family support services	Number of children aged 0-17 years commencing intensive family support services	3714	200	5.39%	2016

The assumptions can be interpreted as, out of 200 children or young people who receive intensive family support 10 people (5%) would otherwise offend and be under detention-based supervision and 20 (10%) would be under community-based youth supervision. Furthermore, due to justice

reinvestment actions, 2 persons (1%) would avoid imprisonment and 4 (2%) would not serve their sentence in community correction.

For this scenario we assume that the results from justice reinvestment are realized for the youth justice system from 2016 and for adult corrective services from 2018. This option, as well as option 1, assumes an initial investment of \$10m, which is expected to be made in equal proportion over 5 years.

The second option is expected to lead to cost savings for the Queensland budget of \$263m by 2030 (expressed as a present value). The cost graph for this option as compared to the BAU scenario is illustrated in figure 12.



**Figure 12 Cost of option 2 (optimistic) as compared with BAU**

## 4.1 Sensitivity Analysis

Sensitivity analysis is conducted to test the robustness of the obtained results and their sensitivity to a change in the major assumptions.

### *Discount rate*

Sensitivity analysis has been undertaken for the discount rate. The analysis demonstrates that application of a discount rate of 6% changes the present value of the cost estimate associated with

the BAU scenario from \$8 862m to \$7,299m. Estimates for Option 1 increase to \$7,330m and for Option 2 – to \$7,102m. The estimated avoided cost from Option 2 as compared to the BAU scenario decreases to \$198m. Consequently, although the discount rate has been increased from 3.5% to 6%, the BAU and Option 1 remain close in cost estimate and Option 2 implies cost savings. This emphasizes the robustness of the obtained results.

A discount rate of 10% implies an increase in the difference between the BAU and Option 1 present value of cost estimates. Specifically BAU (\$5,545m) outperforms Option 1 (\$5,565m) by \$20m. However, BAU remains a more expensive alternative when compared to Option 2 with a present value of cost estimate of \$5,416 using a 10% discount rate.

*Initial investment*

An important assumption of the analysis is the initial investment which is required to ‘kick-start’ justice reinvestment in Queensland.

Importantly, a change in the assumed initial investment does not substantially affect the results. The results of the sensitivity analysis are demonstrated in table 3.

**Table 3 Sensitivity analysis with respect to the change on initial investment assumption**

Assumed initial investment	Net Present Cost (NPC) for scenarios (\$m)		
	BAU	Option 1	Option 2
\$10m	8862	8902	8598
\$1m	8862	8894	8590
\$5m	8862	8897	8594
\$15m	8862	8906	8603
\$20m	8862	8911	8607

**5.0 LIMITATIONS AND RECOMMENDATIONS**

This study has not attempted to evaluate where or how money should be specifically invested in family and community services. However, regardless of how or where the investment is made, rigorous on-going monitoring and evaluation is required to measure the impact of reinvestment and the functioning of the criminal justice system as a whole. This is regarded as critical to ensure the projected results and benefits are being realised. Monitoring and evaluation must ensure that the projected savings are being realised and that the reinvestment of funds is having the desired effect on offending and incarceration rates. Although this limits the applicability of this evaluation for policy formation, it does highlight that justice reinvestment should be implemented in an adaptive management framework. This means that justice reinvestment activities should be continuously

monitored and that evaluation is required so that adjustments can be made to ensure the on-going effectiveness of the initiative.

Elements of on-going monitoring and evaluation identified by the House of Commons Justice Committee are in the nature of adaptive management:

**Performance measures, including the** amount of justice expenditure saved or avoided, recidivism rates and benefits to local communities – reduce numbers of youth using youth justice services

**Monitoring systems,** requiring collation of data across agencies on outcomes

**Reviewer expertise to** analyse how closely the actual impact corresponds to projections

**Ability to commission changes to delivery of services.**

The Law Council of Australia noted in its submission to the Senate Inquiry (PC, 2013) that commentators have adopted a cautious approach to justice reinvestment as ‘true correctional savings have been difficult to document and even more problematic to capture’ and that the ‘impact on offending or recidivism from the reinvestment of these savings into community-based crime prevention strategies will take longer to emerge’.

#### **Data collection and analysis issues**

Lack of data on the costs associated with different alternatives to imprisonment or community based services and activities and their potential effectiveness is the major limitation of this study.

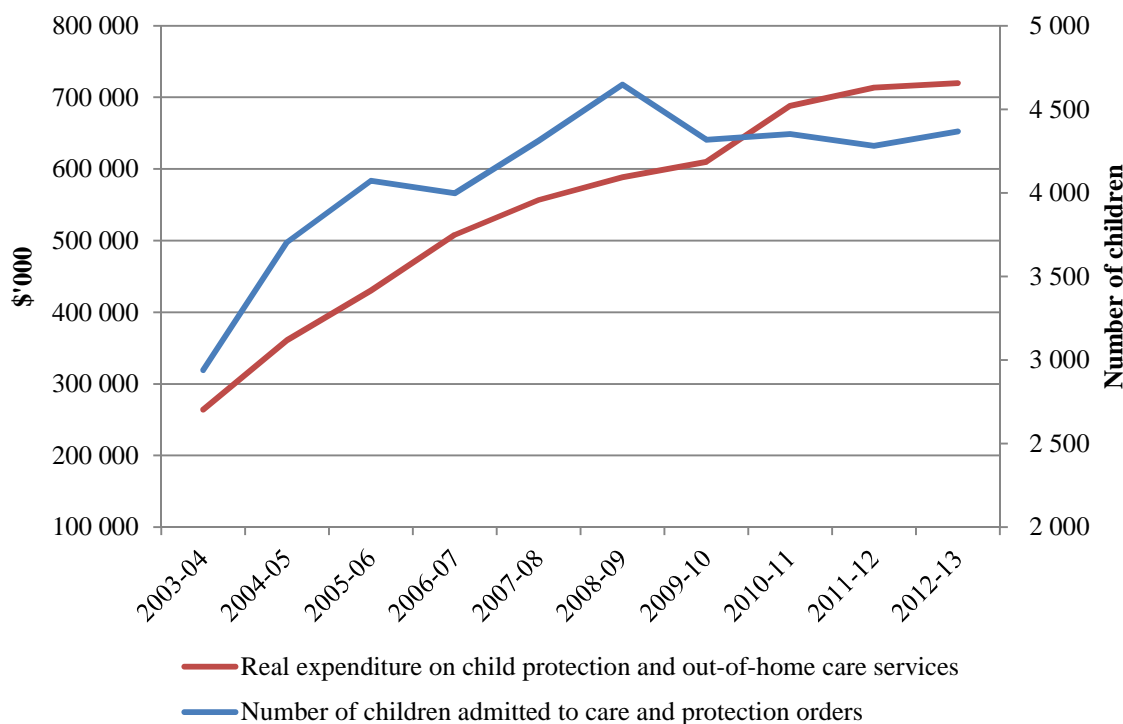
Therefore the suggested and discussed policy alternatives are only hypothetical. However, they do provide a first step to evaluating, from an economic perspective, the likely effectiveness of justice reinvestment. As data does become available, it is recommended that this analysis is revisited.

The problem of lack of data for Australia and the State governments, which is associated with the lack of institutional capacity and formal requirements for data to be collected and analysed, has been raised in the literature. For example, Justice Reinvestment NSW in their submission to the Senate Committee argue that “there remains lack of publicly available peer reviewed data about the costs, availability and effectiveness of alternatives to imprisonment” in Australia (page 19). They also refer to the Washington State Institute of Public Policy as an example of institutional structure undertaking the research on issues including justice reinvestment.

#### **Potential flow-on effects of the justice reinvestment initiative**

The potential benefits of the justice reinvestment initiative are anticipated to exhibit a flow-on effect to other government services resulting in an increase of their quality, cost effectiveness and to contribute to cost savings for the state government.

Specifically, potential positive effects and associated cost savings are expected for child protection services provided by the Queensland Government. Child protection and out-of-home services provided to children and families in Queensland demonstrate a steady trend of increasing budget expenditure as well as in the number of children using the services. In 2012-2013 real expenditure on child protection and out-of-home care services reached \$719.9M (figure 13).



**Figure 1213 Child protection in Queensland: real expenditure and number of recipients**

Source: Productivity Commission (SCRGSP 2014)

The activities within justice-reinvestment initiative are likely to be capable of discontinuing or reversing this trend. It will also indirectly imply cost savings for the government.

Furthermore, intensive family support as a child protection measure is likely to have a positive effect not only on the child who is directly targeted, but also on other children in the family under consideration.

However, this positive effect cannot be estimated and projected given the available data and uncertainty associated with the potential outcomes of community actions and services within the justice reinvestment project.

## Choice of methodology and interpretation of results

This analysis is based on the very limited data which is currently available. It has determined the choice of the methodology for analysis. It implies that the obtained results are estimates based on hypothetical outcomes and should be interpreted with care. Furthermore, it is recommended that the results are used only as indicative measures.

However the report constitutes the first steps toward an economic evaluation of the potential of justice reinvestment in Queensland.

The analysis has demonstrated that justice reinvestment has the potential to provide a cost-effective alternative to the existing approach of youth justice services by targeting the youth at risk and concentrating resources on crime prevention activities in the communities in need (at risk).

Justice reinvestment can also result in potentially substantial cost savings for the state government regional budget. However, for the initiative to provide cost-effective outcomes, individual activities and community-based services are required to be monitored and provide certain levels of efficiency in terms of crime prevention.

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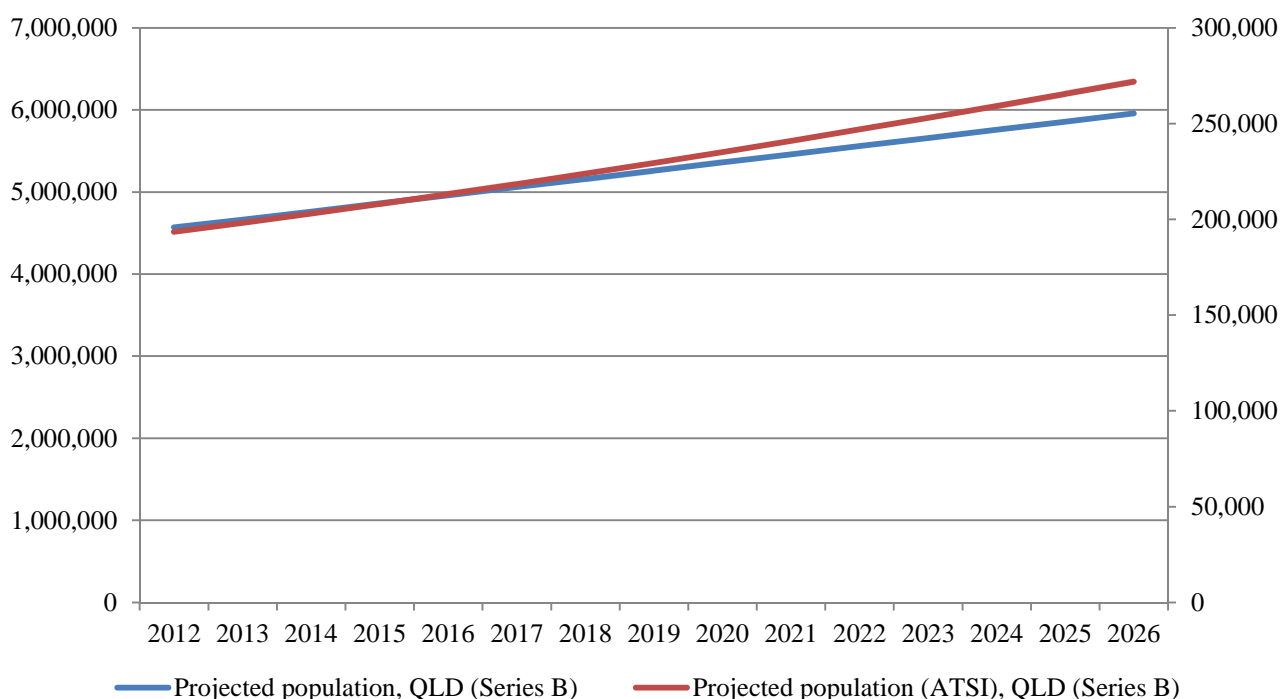


## Appendix

### Population growth projections

The projections for population growth are sourced from ABS for Queensland (2012-2101) and separately for Aboriginal and Torres Strait Islander Australians (2011-2026) (ATSI)<sup>1</sup>. Comparison of projections for 2012-2016 show that the expected growth of ATSI population is expected to exceed the overall rate of population growth slightly. At the same time proportion of population under 15 years old is expected to decrease among ATSI Australians from 37.5% to 34.3% between 2011 and 2026. However, the same rate for total population is predicted to decrease from 19.9% to 19.6%. Therefore, it can be assumed that the youth population is expected to grow with approximately the same rate for total population and ATSI Australians.

Given that ATSI population projections are provided by ABS only until 2016, it is proposed that the total population growth projections for Queensland are used for analysis purposes for the reference period: 2014-2030.



**Figure 14 Projected population growth**

Source: ABS (2014)

<sup>1</sup> Among three series of ABS population projections series have been chosen for future analysis as reflecting medium assumptions: "Series B - assumes the total fertility rates (TFR) will decrease to 1.8 babies per woman by 2026 and then remain constant, life expectancy at birth will continue to increase each year until 2061, though at a declining rate (reaching 85.2 years for males and 88.3 years for females), net overseas migration (NOM) will remain constant at 240,000 per year throughout the projection period, and medium interstate migration flows.